§ 162.060–20 Design and construction requirements.

(a) Unless otherwise authorized by the Commandant, each ballast water management system (BWMS) must be designed and constructed in a manner that—

(1) Ensures simple and effective means for its operation;

(2) Allows operation to be initiated, controlled, and monitored by a single individual, with minimal interaction or attention once normal operation is initiated;

(3) Is robust and suitable for working in the shipboard environment and adequate for its intended service;

(4) Meets recognized national or international standards for all related marine engineering and electrical engineering applications; and

(5) Operates when the vessel is upright, inclined under static conditions at any angle of list up to and including 15°, and when the vessel is inclined under dynamic, rolling conditions at any angle of list up to and including 22.5° and, simultaneously, at any angle of trim (pitching) up to and including 7.5° by bow or stern. The Coast Guard may permit deviations from these angles of inclination by considering the type, size, and service of intended vessels and considering how the BWMS is to be operated. These deviations must be included on the certificate issued in accordance with §162.060–10(g) of this subpart.

(b) Each BWMS must have control and monitoring equipment that—

(1) Automatically monitors and adjusts necessary treatment dosages, intensities, or other aspects required for proper operation;

(2) Incorporates a continuous self-monitoring function during the period in which the BWMS is in operation;

(3) Records proper functioning and failures of the BWMS;

(4) Records all events in which an alarm is activated for the purposes of cleaning, calibration, or repair;

(5) Is able to store data for at least 6 months and to display or print a record for official inspections as required; and

(6) In the event that the control and monitoring equipment is replaced, actions must be taken to ensure the data recorded prior to replacement remain available onboard for a minimum of 24 months.

(c) Each BWMS must be designed and constructed with the following operating and emergency controls:

(1) Visual means of indicating (both on the BWMS and in a normally manned space) when the BWMS is operating, including a visual alarm activated whenever the BWMS is in operation for the purpose of cleaning, calibration, or repair.

(2) Audio and visual alarm signals in all stations from which ballast water operations are controlled in case of any failure(s) compromising the proper operation of the BWMS.

(3) Means to activate stop valves, as applicable, if the BWMS fails.

(4) Suitable manual by-passes or overrides to protect the safety of the vessel and personnel in the event of an emergency.

(5) Means that compensate for a momentary loss of power during operation of the BWMS so that unintentional discharges do not occur.

(6) Means of automatic operation for BWMS installed in unoccupied machinery spaces, from the time placed online until the time secured.

(7) Adequate alarms for the unintentional release of active substances, preparations, relevant chemicals, or hazardous materials used in or produced by the BWMS.

(d) A BWMS must comply with the relevant requirements for use in a hazardous location, as defined in 46 CFR subpart 111.105, or its foreign equivalent, if it is intended to be fitted in a hazardous location. Any electrical equipment that is a component of the BWMS must be installed in a non-hazardous location unless certified as safe for use in a hazardous location. Any moving parts which are fitted in hazardous locations must be arranged in a manner that avoids the formation of static electricity. Certificates issued under §162.060–10(g) for systems approved for installation in hazardous locations must be so noted.

(e) To ensure continued operational performance of the BWMS without interference, the following conditions must be incorporated into the design:

(1) Each part of the BWMS that the manufacturer's instructions require to

be serviced routinely or that is liable to wear or damage must be readily accessible in the installed position(s) recommended by the manufacturer.

(2) To avoid interference with the BWMS, every access of the BWMS beyond the essential requirements, as determined by the manufacturer, must require the breaking of a seal, and, where possible for the purpose of maintenance, activate an alarm.

(3) Simple means must be provided aboard the vessel to identify drift and repeatability fluctuations and re-zero measuring devices that are part of the control and monitoring equipment.

(f) Each BWMS must be designed so that it does not rely in whole or in part on dilution of ballast water as a means of achieving the ballast water discharge standard as required in 33 CFR part 151, subparts C or D.

(g) Adequate arrangements for storage, application, mitigation, monitoring (including alarms), and safe handling must be made for all BWMS that incorporate the use of, produce, generate, or discharge a hazardous material, active substance, preparation and/or pesticide in accordance with Coast Guard regulations on handling/storage of hazardous materials (33 CFR part 126) and any other applicable Federal, State, and local requirements.

(h) For any BWMS that incorporates the use of or generates active substances, preparations, or chemicals, the BWMS must be equipped with each of the following, as applicable:

(1) A means of indicating the amount and concentration of any chemical in the BWMS that is necessary for its effective operation.

(2) A means of indicating when chemicals must be added for the proper continued operation of the BWMS.

(3) Sensors and alarms in all spaces that may be impacted by a malfunction of the BWMS.

(4) A means of monitoring all active substances and preparations and relevant chemicals in the treated discharge.

(5) A means to ensure that any maximum dosage or maximum allowable discharge concentration of active substances and preparations is not exceeded at any time.

(6) Proper storage of each chemical defined as a hazardous material in 49 CFR 171.8 that is specified or provided by the manufacturer for use in the operation of a BWMS. Each such chemical that is stowed onboard must be labeled and stowed in accordance with the procedures in 46 CFR part 147.

§ 162.060–22 Marking requirements.

(a) Each ballast water management system (BWMS) manufactured under Coast Guard approval must have a nameplate which is securely fastened to the BWMS and plainly marked by the manufacturer with the information listed in paragraph (b) of this section.

(b) Each nameplate must include the following information:

(1) Coast Guard approval number assigned to the BWMS in the certificate of approval.

(2) Name of the manufacturer.

(3) Name and model number of the BWMS.

(4) The manufacturer's serial number for the BWMS.

(5) The month and year of manufacture completion.

(6) The maximum allowable working pressure for the BWMS.

(c) The information required by paragraph (b) of this section must appear on a nameplate attached to, or in lettering on, the BWMS. The nameplate or lettering must be capable of withstanding the combined effects of normal wear and tear and exposure to water, salt spray, direct sunlight, heat, cold, and any substance used in the normal operation and maintenance of the BWMS without loss of readability. The nameplate must not be obscured by paint, corrosion, or other materials that would hinder readability.

[USCG–2001–10486, 77 FR 17311, Mar. 23, 2012, as amended by 77 FR 33970, Jun. 8, 2012]

§ 162.060–24 Test Plan requirements.

(a) The Coast Guard requires Test Plans for land-based, shipboard, and component testing conducted to meet the requirements of §§ 162.060–26, 162.060–28 and 162.060–30 of this subpart, respectively. Test Plans must include an examination of all the manufacturer's stated requirements and procedures for installation, calibration, maintenance, and operations that will